REMARKS

No new matter has been added. The Applicant again requests entry of the amendments as set forth in the Appendices hereto prior to examination of the application on the merits.

Respectfully submitted,

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Enclosures: Version of Specification with Markings to Show Changes Made
Version of Claims with Markings to Show Changes Made

VERSION OF SPECIFICATION WITH MARKINGS TO SHOW CHANGES MADE

Please replace Paragraph **[0052]** as follows:

[0052] As shown in FIGs. 7 and 8, the lead fingers 104 are lowered onto the exposed surface 122 of the adhesive material 114 to contact the lead finger stops 115. When a bottom surface 124 of the lead fingers 104 comes in contact with the lead finger stop 115, the adhesive material 114 wets out across the bottom surface 124 of the lead fingers 104. The contacting of the lead fingers 104 with the lead finger stops 115 extends the lead fingers 104 past a top surface 182 of the adhesive material exposed surface 122, as shown in FIG. 8. The lead fingers 104 remain in this position for a time sufficient to allow the adhesive material 114 to wet the bottom surface 124 of the lead fingers 104, preferably approximately 10 to 25 milliseconds. As shown in FIGs. 9 and 10, when the lead fingers 104 are retracted from the adhesive material 114, the cohesion of the adhesive material 114 with the lead fingers 104 pulls some of the adhesive material 114 from the bulk of the adhesive material 114 to form an adhesive film 126 on the bottom surface 124 of the lead finger 104. The thickness of the adhesive film 126 on the lead fingers 104 can range from 0.1 to 15 mils depending on the viscosity of the adhesive material 114. Changing the shape of the lead finger 104, changing the rheology of the adhesive material 114, pre-coating the lead finger 104 with a surfactant, such as AMP (2-amino-2-methyl-1-propanol), or placing a solvent in the adhesive material 114 to improve wetting, and/or adding adhesion promoters, such as silane, siloxane, or polyimide siloxane, to the adhesive material 114, will also change the thickness and/or pattern of the adhesive film 126. It is, of course, understood that the adhesive material 114 must be capable of adhering to the lead fingers 104 and should not be of such a low viscosity that it drips when the lead fingers 104 are removed from contact with the exposed surface 122 of the adhesive material 114.

Please replace Paragraph **[0063]** as follows:

[0063] The illustration in FIG. 20 is an AutoCad™ program rendering of a digitized measurement of the non-stenciled adhesive material exposed surface 172 and stenciled adhesive material exposed surface 174. The maximum height 176 of the non-stenciled adhesive material exposed surface 172 was approximately 0.07 inches above an upper surface 175 of the coating stencil 150 and the effective adhesion surface 178 of the non-stenciled adhesive material exposed surface 172 was approximately 0.26 inches wide. The maximum height 181 of the stenciled adhesive material exposed surface 174 was approximately 0.05 inches and the effective adhesion surface [182]183 of the stenciled adhesive material exposed surface 174 was approximately 0.33 inches wide. Thus, the use of a coating stencil 150 resulted in an increase of effective adhesion surface of about 21.2%. The effective adhesion surfaces 178, 183 are determined as the area from the maximum height 176, 181 of the adhesive material exposed surfaces 172, 174 to a position about 5 mils below the maximum height 176, 181.

Please replace Paragraph **[0072]** as follows:

[0072] As shown in FIG. 35, the lead fingers 104 are lowered into the exposed surface 122 of the adhesive material 114 to contact the buoyant lead finger stop structures 198. As the lead fingers 104 press down on the buoyant lead finger stop structures 198, the buoyant lead finger stop structures 198 begin to move downward into the adhesive material 114. As the adhesive material 114 is displaced by the buoyant lead finger stop [structure]structures 198, the adhesive material 114 moves upward toward the lead fingers 104.

VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

2. (Amended) The method according to claim 1, wherein said providing a receptacle including at least one viscous material pool containing viscous material comprises providing said at least one viscous material pool containing adhesive or polyimide.

3. (Amended) The method according to claim 2, wherein said providing a [reservoir]receptacle including at least one viscous material pool containing viscous material comprises providing [a]said at least one viscous material pool containing adhesive selected from the group consisting of thermoplastics, thermoset resins, flowable pastes, and B-stage adhesive materials.

4. (Amended) The method according to claim 1, wherein said placing at least one semiconductor element against said at least one stop comprises extending said specific [location]portion of said at least one semiconductor element beyond a top surface of the exposed surface of said viscous material.

5. (Amended) The method according to claim 4, wherein said extending comprises immersing said specific [location]portion of said at least one semiconductor element beyond said top surface of the exposed surface of said viscous material for a time sufficient to allow the viscous material to wet said specific [location]portion of said at least one semiconductor element.

6. (Amended) The method according to claim 5, wherein said extending comprises immersing said specific [location]portion of said at least one semiconductor element beyond said top surface of the exposed surface of said viscous material for approximately 10 to 25 milliseconds.

7. (Amended) The method according to claim 1, wherein said placing[said] at least one semiconductor element against said at least one stop comprises extending said specific [location]portion of said at least one semiconductor element beyond a top surface of the exposed surface of said viscous material without breaking the surface tension of said viscous material.

8. (Amended) The method according to claim 1, wherein said providing a receptacle comprises providing [a]said receptacle shaped such that the exposed surface of the viscous material is presented in a precise location and configuration.

9. (Amended) The method according to claim 1, wherein said placing at least one semiconductor element comprises placing at least one of a lead finger, a carrier substrate, a bond pad and a trace pad above said at least one opening.

10. (Amended) The method according to claim 1, wherein said placing at least one semiconductor element comprises aligning said at least one semiconductor element above said at least one opening.

11. (Amended) The method according to claim 1, wherein said placing at least one semiconductor element comprises biasing said at least one semiconductor element downward proximate the viscous material.

12. (Amended) The method according to claim 11, wherein said biasing comprises providing at least one of a hydraulic biasing mechanism, a pneumatic biasing mechanism, and an electrically-powered biasing mechanism configured to place said at least one semiconductor element proximate said viscous material.

13. (Amended) The method according to claim 1, wherein said placing [comprising]at least one semiconductor element comprises raising said at least one viscous material pool upward proximate said at least one semiconductor element.

15. (Amended) The method according to claim 1, further comprising pumping said viscous material to [a]another height above said at least one stop sufficient to contact said specific [location]portion of said at least one semiconductor element.

17. (Amended) The method according to claim 1, wherein said placing at least one semiconductor element comprises applying a layer of said viscous material having a thickness between 0.1 to 15 mils on said specific [location]portion of said at least one semiconductor [component]element.

18. (Amended) The method according to claim 1, further comprising coating at least said specific [location]portion of the at least one semiconductor element with a surfactant prior to said placing said at least one semiconductor element against said at least one stop.

26. (Amended) The method according to claim 25, wherein said controlling the height of said exposed surface of said viscous material comprises:
delivering said viscous material to said at least one viscous material pool;
providing said detection mechanism comprising a transmitter, a receiver, and a control signal;
determining the height of said exposed surface with said transmitter and said receiver; and
generating said control signal to control delivery of said viscous material to said at least one viscous material pool.

29. (Amended) The method according to claim 25, wherein said employing a detection mechanism comprises providing a laser transmitter, wherein a light beam from said laser transmitter is altered by the exposed surface and wherein a receiver detects the alteration of said light beam and then generates a control signal.

30. (Amended) The method according to claim 25, wherein said employing a detection mechanism comprises providing an ultrasonic transmitter, wherein an ultrasonic sound wave from the ultrasonic transmitter is altered by the exposed surface and wherein a receiver detects the alteration in the ultrasonic sound wave and then generates [the]a control signal.

31. (Amended) The method according to claim 1, wherein said controlling comprises providing a coating stencil proximate an upper surface of said receptacle, said coating stencil including:

a generally flat and generally horizontal top surface; and

a plurality of apertures aligned to apply said viscous material to said specific [location]portion of said at least one semiconductor element, said plurality of apertures sized and configured to control extrusion of said viscous material through said coating stencil to increase the exposed surface of said viscous material.

34. (Amended) The method according to claim 31, wherein said providing a coating stencil comprises said sizing and said configuring said plurality of apertures of said coating stencil as a result of considering a viscosity of said viscous material.

35. (Amended) The method according to claim 34, wherein said providing a coating stencil comprises said sizing and said configuring said plurality of apertures of said coating stencil to suit a viscous material viscosity ranging from approximately 1000 to 500,000 centipoise.

36. (Amended) The method according to claim 34, wherein said providing a coating stencil comprises said sizing and said configuring the plurality of apertures of said coating stencil to optimally accommodate a viscous material viscosity of approximately 62,000 centipoise.

37. (Amended) The method according to claim 34, wherein said providing a coating stencil comprises said sizing and said configuring [the]said plurality of apertures of said coating stencil to optimally accommodate a viscous material viscosity of approximately 62,000 centipoise at a temperature of approximately 77° F (25 °C).

38. (Amended) The method according to claim 31, wherein said providing a coating stencil comprises arranging the plurality of apertures of said coating stencil generally parallel to each other and[are] spaced so as to have a centerline pitch between apertures of .020 inches (.051 cm).

39. (Amended) The method according to claim 31, wherein said providing a coating stencil comprises providing [a]said coating stencil having 23 apertures.

40. (Amended) The method according to claim 31, wherein said providing a coating stencil comprises said sizing [the]said plurality of apertures of said coating stencil to be .260 inches (.660 cm) in length and .010 inches (.025 cm) in width.

43. (Amended) The method according to claim 1, wherein said providing a receptacle comprises providing [a]said receptacle including a housing having an inflow chamber in fluid communication with said at least one viscous material pool.

45. (Amended) The method according to claim 1, wherein said providing at least one stop comprises providing a buoyant stop independent from said [reservoir]receptacle.

46. (Amended) The method according to claim 45, wherein said placing at least one semiconductor element against said at least one stop comprises pressing said at least one semiconductor element down on the buoyant stop to displace said viscous material upward toward said specific portion of said at least one semiconductor element.

49. (Amended) The method according to claim 48, wherein said providing a receptacle including at least one viscous material pool containing viscous material comprises providing said at least one viscous material pool containing adhesive or polyimide.

50. (Amended) The method according to claim 49, wherein said providing a receptacle including at least one viscous material pool containing viscous material comprises providing [a] said at least one viscous material pool containing adhesive selected from the group consisting of thermoplastics, thermoset resins, flowable pastes, and B-stage adhesive materials.

51. (Amended) The method according to claim 49, wherein said positioning at least one semiconductor element proximate said at least one stop comprises extending said specific [location]portion of said at least one semiconductor element beyond a top surface of the exposed surface of said viscous material.

52. (Amended) The method according to claim 51, wherein said extending comprises immersing said specific [location]portion of said at least one semiconductor element beyond said top surface of the exposed surface of said viscous material for a time sufficient to allow the viscous material to wet said specific [location]portion of said at least one semiconductor element.

53. (Amended) The method according to claim 52, wherein said extending comprises immersing said specific [location]portion of said at least one semiconductor element beyond said top surface of the exposed surface of said viscous material for approximately 10 to 25 milliseconds.

54. (Amended) The method according to claim 48, wherein said positioning[said] at least one semiconductor element proximate said at least one stop comprises extending said specific [location]portion of said at least one semiconductor element beyond a top surface of the exposed surface of said viscous material without breaking the surface tension of said viscous material.

56. (Amended) The method according to claim 48, wherein said positioning at least one semiconductor element comprises positioning at least one of a lead finger, a carrier substrate, a bond pad and a trace pad above said at least one [opening]outlet.

57. (Amended) The method according to claim 48, wherein said positioning at least one semiconductor element comprises aligning said at least one semiconductor element above said at least one [opening]outlet.

58. (Amended) The method according to claim [1]48, wherein said positioning at least one semiconductor element comprises biasing said at least one semiconductor element downward proximate the viscous material.

59. (Amended) The method according to claim 58, wherein said biasing comprises providing at least one of a hydraulic biasing mechanism, a pneumatic biasing mechanism, and an electrically-powered biasing mechanism configured to place said at least one semiconductor element proximate said at least one stop.

60. (Amended) The method according to claim 58, wherein said positioning at least one semiconductor element comprises raising said at least one viscous material pool upward proximate said at least one semiconductor element.

62. (Amended) The method according to claim 48, wherein said extruding comprises pumping said viscous material through said coating stencil to [a]another height above said at least one stop sufficient to contact said specific [location]portion of said at least one semiconductor element.

63. (Amended) The method according to claim 48, wherein said positioning at least one semiconductor element comprises applying a layer of said viscous material having a thickness between 0.1 to 15 mils on said specific [location]portion of said at least one semiconductor [component]element.

64. (Amended) The method according to claim 48, further comprising coating at least said specific [location]portion of the at least one semiconductor element with a surfactant prior to said positioning said at least one semiconductor element proximate said at least one stop.

68. (Amended) The method according to claim 67, wherein said controlling the height of said exposed surface of said viscous material comprises:
delivering said viscous material to said at least one viscous material pool;
providing said detection mechanism comprising a transmitter, a receiver, and a control signal;
determining the height of said exposed surface with said transmitter and said receiver; and
generating said control signal to control delivery of said viscous material to said at least one viscous material pool.

71. (Amended) The method according to claim 68, wherein said providing [a]said detection mechanism comprises providing a laser transmitter, wherein a light beam from said laser transmitter is altered by the exposed surface and wherein the receiver detects the alteration of said light beam and then generates [a]said control signal.

72. (Amended) The method according to claim 68, wherein said providing [a]said detection mechanism comprises providing an ultrasonic transmitter, wherein an ultrasonic sound wave from [the]said ultrasonic transmitter is altered by the exposed surface and wherein the receiver detects the alteration in the ultrasonic sound wave and then generates the control signal.

73. (Amended) The method according to claim 48, wherein said extruding said viscous material through a coating stencil to reveal said exposed surface comprises providing [a]said coating stencil including:

a generally planar horizontal top surface; and

a plurality of apertures aligned to apply said viscous material to said specific [location]portion of said at least one semiconductor element, said plurality of apertures sized and configured to control extrusion of said viscous material through said coating stencil to increase the exposed surface of said viscous material.

74. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises providing a coating stencil wherein the plurality of apertures are substantially rectangular in shape.

75. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises providing a coating stencil wherein the plurality of apertures of said coating stencil are substantially square in shape.

76. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises said sizing and said configuring said plurality of apertures of said coating stencil as a result of considering a viscosity of said viscous material.

77. (Amended) The method according to claim 76, wherein said providing [a]said coating stencil comprises said sizing and said configuring said plurality of apertures of said

coating stencil to suit a viscous material viscosity ranging from approximately 1000 to 500,000 centipoise.

78. (Amended) The method according to claim 76, wherein said providing [a]said coating stencil comprises said sizing and said configuring the plurality of apertures of said coating stencil to optimally accommodate a viscous material viscosity of approximately 62,000 centipoise.

[77]79. (Amended) The method according to claim 76, wherein said providing [a]said coating stencil comprises said sizing and said configuring the plurality of apertures of said coating stencil to optimally accommodate a viscous material viscosity of approximately 62,000 centipoise at a temperature of approximately 77° F (25 °C).

[78]80. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises arranging the plurality of apertures of said coating stencil generally parallel to each other and are spaced so as to have a centerline pitch between apertures of .020 inches (.051 cm).

[79]81. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises providing [a]said coating stencil having 23 apertures.

[80]82. (Amended) The method according to claim 73, wherein said providing [a]said coating stencil comprises said sizing the plurality of apertures of said coating stencil to be .260 inches (.660 cm) in length and .010 inches (.025 cm) in width.

[81]83. (Amended) The method according to claim 48, further comprising providing a vacuum on a bottom side of said coating stencil.

[82]84. (Amended) The method according to claim 48, further comprising providing a circulation mechanism configured to circulate said viscous material and maintain uniformity of said viscous material.

[83]85. (Amended) The method according to claim 48, wherein said providing a receptacle comprises providing said receptacle including a housing having an inflow chamber in fluid communication with said at least one viscous material pool.

[84]86. (Amended) The method according to claim 48, further comprising adjusting said at least one stop to a desired height.

[85]87. (Amended) The method according to claim 48, wherein said providing at least one stop comprises providing a buoyant stop independent from said [reservoir]receptacle.

[86]88. (Amended) The method according to claim [85]87, wherein said positioning at least one semiconductor element proximate said at least one stop comprises pressing said at least one semiconductor element down on the buoyant stop to displace said viscous material upward toward said specific portion of said at least one semiconductor element.

[87]89. (Amended) The method according to claim [86]88, further comprising providing a mechanism to press said at least one semiconductor element against said at least one stop and a pressure sensor associated with said buoyant stop, wherein said pressure sensor triggers the mechanism to stop pressing when a predetermined pressure is attained.